4.0 BUILD OUT CONDITIONS

4.1 Future Site Description

The future site description matches the current description presented in Section 2.1. The planned build out of the site would be in accordance with NCPC's *Comprehensive Plan for the National Capital*.

4.2 Access

4.2.1 Highway Access

Regional access to the NNMC campus would continue to be primarily via the Capital Beltway (I-495) and I-270 freeway systems, and arterial facilities including Rockville Pike (MD 355), Connecticut Avenue (MD 185), Old Georgetown Road (MD 187), Jones Bridge Road and Cedar Lane. Direct access to the center would be provided by Rockville Pike and Jones Bridge Road. The NNMC Environmental Impact Statement (EIS) indicates that there is excessive peak period and directional congestion and delay along these roadways. These conditions would continue to occur along Rockville Pike, Old Georgetown Road and Connecticut Avenue in the southbound direction during the morning peak period, and in the northbound direction during the afternoon peak period. There would be excessive traffic congestion in the eastbound direction along the Capital Beltway, during the afternoon peak period.

4.2.2 Pedestrian Access

Future pedestrian traffic conditions are expected to be similar to existing conditions with minor improvements to sidewalks, crosswalks and related signage along MD 355 and Jones Bridge Road. The primary pedestrian movements would continue across Rockville Pike between the South Gate and the Medical Center Metro Station. WMATA and Bethesda Hospitals Emergency Preparedness Partnership (BHEPP) are currently undertaking studies to provide a tunnel or bridge across Rockville Pike. Both groups are collaborating on their findings within these studies. This improvement is not likely to be completed within the Master Plan horizon.

NNMC employees will have access to the kiss-and-ride facility at the Medical Center Metrorail Station which will be improved by WMATA to provide greater capacity.

4.3 Site Access Situation

Direct access to the NNMC campus would be provided via the following five entrances/gates:

- Rockville Pike at North Wood Road (North Gate);
- Rockville Pike at South Wood Road (South Gate);
- Jones Bridge Road at Gunnell Drive (Navy Exchange/NEX Gate);

- Jones Bridge Road at Grier Drive (Navy Lodge Gate); and
- Jones Bridge Road at University Road (USUHS Gate).

4.3.1 Gate Access Improvements

A planned future project will construct new Entry Control Points (ECP) at both the South and North Wood Road entrances as well as the Gunnell Road, Grier Road and University Road entrances. Additionally this project will expand internal entry and exit traffic lanes to the perimeter gates, widen Perimeter Road to handle truck traffic and construct a Pass / ID Facility with associated parking and driving lanes. A Truck Inspection Station will be constructed off of Jones Bridge Road. Details of these improvements are provided below:

University Road Access

- Provide one-way inbound access during all times of the day, and provide other improvements needed to accommodate ingress movements by commercial vehicles, including large trucks, in accordance with current gate improvement plans.

Rationale: University Road currently serves one-way inbound traffic between 5:00 AM to 8:30 AM from Monday to Friday, and is closed during other times. This road would provide direct access to the planned commercial vehicle inspection facility.

Grier Road Access

- Provide two-way directional movements during all times of the day, and provide accommodating roadway improvements in accordance with current gate improvement plans.
- Widen Grier Road and provide pavement markings to delineate a separate right-turn lane and a left-turn lane for outbound traffic movements, and a single lane for inbound movements.

Rationale: This signalized access is used for commercial vehicle inspection between 5:00 AM to 3:00 PM and serves outbound traffic movements between 3:00 pm to 6:00 pm from Monday to Friday, the gate is closed at all other times. The improvements could be accommodated without adverse impacts, and would enhance site trip distribution and the operations of the other campus gates.

Gunnell Road Access

Some improvements will be considered to widen the inbound and outbound lanes of this gate and there will be a consideration to provide a pull-over lane.

North Wood Road Access

- Conduct a full intersection study including a signal warrant analysis for this location, and implement identified geometric and/or signalization improvements.
- Widen the roadway cross-section to increase the number of lanes from two to three.
- Provide two inbound lanes and one outbound lane in the morning peak hour, and two

outbound lanes and one inbound lane in the evening peak hour.

Rationale: This access location is unsignalized. It experiences extensive queuing by vehicles waiting to turn left into the campus during the morning peak period, and by vehicles waiting to exit onto Rockville Pike during the afternoon peak period. The U.S. Army Surface Deployment and Distribution Command (SDDC) has reviewed the Navy's Defense Access Roads (DAR) Needs Report regarding potential improvements to the North Wood Road intersection. SDDC has determined that DAR Certification is not necessary for the Navy to implement this project since construction will not require right-of-way. The Navy is pursuing improvements to the North Wood Road intersection as part of the on-base transportation improvements.

The North Wood and South Wood Road access will also be provided with pull-off lanes at the gate inspection points for vehicles with delayed clearance to avoid queuing of inbound traffic stream.

4.4 Future Traffic Conditions (without BRAC Action)

The Future Traffic Conditions (without BRAC Action) are those that are projected to occur without the BRAC Action implementation in 2011. These traffic conditions are the combination of existing volumes and trips from other planned land use developments within the immediate NNMC area. The NNMC Environmental Impact Statement (EIS) indicates that excessive peak period and directional traffic congestion would worsen along the external perimeter roadways, before the implementation of the BRAC Action and other planned land uses changes. Four (4) intersections would operate above the established County congestion standards. These are *Rockville Pike at Cedar Lane, Connecticut Avenue at Jones Bridge Road, Rockville Pike at Jones Bridge Road and Old Georgetown Road at Cedar Lane.*

4.5 Future Traffic Conditions (with BRAC Action)

The NNMC EIS indicates that five (5) intersections would operate above the established congestion standards, upon implementation of the BRAC Action and other planned land use changes. These are *Rockville Pike at Cedar Lane, Connecticut Avenue at Jones Bridge Road, Rockville Pike at Jones Bridge Road, Old Georgetown Road at Cedar Lane and Rockville Pike at North Drive.*

Analysis of the BRAC traffic impacts on the campus indicates that the baseline (Pre-BRAC or May 2008) roadway network would continue to operate efficiently except for the following intersections:

- North Palmer Road at Wood Road
- South Palmer Road at Wood Road
- Robert Brown Drive at North Palmer Road

4.5.1 Roadway Capacity and Circulation Improvements

Roadway capacity improvements based on above findings are as follows:

- Restrict Wood Road to emergency and transit vehicles between North Palmer Road and South Palmer Roads.

Rationale: The North Palmer Road and South Palmer Road intersections with Wood Road currently operate with capacity constraints during the morning and afternoon peak periods. The closure of this section of Wood Road to passenger vehicles would improve the operation of those intersections without creating inefficient circulation impacts.

- Widen the northbound approach of the Robert Brown Drive at North Palmer Road intersection and provide a separate left-turn lane and a shared through/right turn lane.

Rationale: These improvements are required to mitigate projected capacity deficiencies.

- Enhance vehicular circulation along the existing roadway connection between Stone Lake Road north of South Palmer Road Bridge to Stokes Road to form an 'L' shape.

Rationale: This connection will improve circulation of vehicles within campus and provide a more favorable distribution of traffic exiting onto Jones Bridge Road via the Grier Road and Gunnell Road Gates.

4.5.2 Truck Inspection Facility and Circulation Improvements

The current designated truck inspection facility is located at the Grier Road/Navy Lodge Entrance. As a short-term improvement to this truck facility, it is recommended that:

- Grier Road should be widened to provide two 12-foot inbound lanes. The inspection areas should be located sufficiently inside of the gate to prevent spill-over of queues onto Jones Bridge Road; and

- In addition to the outbound lanes there should be provision for a turn around lane, that can be used by trucks rejected after inspection. The additional area needed to facilitate efficient truck turn around movements can be obtained by utilizing the open space remaining after the planned demolition of the currently unused SNCO senior housing quarters located along Grier Road.

In the long term, a new truck inspection facility would be located along the east side of University Road Gate just north of Jones Bridge Road. The following recommendations pertain to truck access and circulation related to this facility:

- Undertake an engineering design study for the planned commercial vehicle inspection center, to

determine the improvements required to make the facility operate efficiently and safely without any adverse traffic impacts within the campus and along Jones Bridge Road;

- Widen the Perimeter Road to provide for two-way traffic movements and extension to Taylor Road. This should greatly improve truck circulation and remove this traffic from the campus core;

- Improve Stone Lake Road and complete the eastern perimeter road loop to accommodate trucks and other vehicles before the planned truck inspection facility becomes operational;

- In the event of Stone Lake Road being permanently closed to traffic as is the case today, a new roadway connection is recommended between Perimeter Road and E Rixey Road. This roadway connection would run parallel to and north of Stone Lake Road;

- Designate the Gunnell Road / Navy Exchange Gate as the truck exit for all the trucks. This gate will provide most direct and shortest exit route for majority of trucks serving the campus. Gate improvements including the expansion of Gunnell Road to provide two inbound and two outbound lanes with sufficient widths for truck traffic would be necessary; and

- Eliminate on-street parking along East Rixey Road near its intersection with East Palmer Road, restrict Stone Lake Road to one-way westbound and eliminate or reduce on-street parking along Stone Lake Road.

These improvements will enhance the efficiency and safety of truck access and circulation within campus.

4.6 Public Transportation

The NNMC will continue to be well served by public transportation facilities. The campus is situated across Rockville Pike from the Medical Center Metrorail Station on the Red Line of the Washington Metropolitan Area Transit Authority (WMATA). This station is also a major stop/transfer point for several WMATA and Montgomery Ride-On bus routes. It is expected that the trains would continue to operate with headways of 3 to 6 minutes during the peak weekday morning and afternoon periods, and with headways of 6 to 15 minutes during the weekday off-peak periods. Metrobus and Ride-On services are expected to remain at existing levels or be improved (due to the construction of a Ride-On bus garage).

The WMATA *Future Metrorail Capacity Needs Report* (cited on page 7), indicates that the Red Line System is expected to operate without capacity constraints until 2030. Six-car and eight-car trains are operated during peak periods. WMATA anticipates that operating a greater percentage (50%) of 8-car trains would relieve peak period crowding from 2010 through 2030. This expanded capacity would

easily accommodate any expected surge in ridership resulting from the BRAC Actions.

Heavy rail commuter service will continue to be available via the Maryland Rail Commuter (MARC) "Brunswick" line. Trains originate in Martinsburg, West Virginia, or Brunswick and Frederick in Maryland, and travel to Union Station in Washington, D.C. in the morning hours with reverse movements occurring in the evening.

4.7 Shuttle Service

The NNMC shuttle bus services (noted in Section 2) will be enhanced with the improvements illustrated in the Master Plan. Ten to fifteen minute peak period shuttle headways will be provided together with transit stop amenities including striving for real-time shuttle bus arrival information, posted transit route maps and schedules, new signs to clearly identify shuttle bus stops, and shelter and seating on all area shuttle routes will enhance the user experience and make the shuttle system more attractive to potential users. The majority of the changes discussed are already in progress and will be implemented within the next year.

The NNMC will continue to be accessed by shuttle bus services operated by other DOD agencies. These include the US Naval Academy Annapolis Naval Station, Patuxent River/Naval Air Station and Quantico Marine Corps Base.

4.8 Future Parking Conditions

The baseline (Pre-BRAC or May 2008) parking supply will be increased from 6,083 to 8,087 spaces by 2011. This increase is achieved by constructing four parking structures and eliminating over 1,100 surface parking spaces. These parking spaces will be utilized for a number of different purposes and uses including patients, visitors, commercial retail, staff lodging, transient visitor lodging, resident doctors and students, government vehicles, volunteers and staff (including shift workers).

The Master Plan proposes the elimination or modification of several surface lots due to construction or AT/FP needs, and the provision of new structured and surface spaces to serve patients, medical facility, administrative, university, lodging and other uses. The existing staff parking (2,863 spaces) will be reduced to 2,462 spaces by 2011 to achieve the NCPC parking ratio requirement (i.e., 1 space for every 3 staff members). The assessment of additional parking needed to serve the future/planned campus development was undertaken considering the following factors:

a) The Department of Defense (DoD) and Unified Facilities Criteria (UFC) parking requirements for planned land uses; and

b) The National Capital Planning Commission (NCPC) parking policies and staff parking ratio goal for federal facilities within the National Capital Region.

The NCPC parking ratio requirement is in keeping with the *Transportation Element of the Comprehensive Plan for the National Capital*. The Transportation Element is built upon the principles of Transit-Oriented Development and Smart Growth and therefore focuses on maximizing federal employees' and facilities' access to the region's extensive transit system. By limiting parking ratios at federal facilities within easy reach of the Metrorail system and supporting transit incentive programs, the Transportation Element provides both an incentive and a rational approach to shifting federal employees to transit and other alternative travel modes. The benefits of these policies include reducing regional traffic congestion, improving regional air quality which currently does not meet federally mandated levels and getting employees to work efficiently.

The Transportation Element stipulates parking ratio requirements that are based primarily on their reasonable walking distances and urban/suburban character. A reasonable walking distance is defined as 2,000 feet, or somewhere between a quarter mile and a half mile, which is about a 10-minute walk. The parking ratios are intended to be used as goals for federal agencies, and the Federal agency Transportation Management Plans (TMPs) should be developed around attaining these goals. Based on NNMC's location within a suburban area (Bethesda, Maryland) and within 2,000 feet of the Medical Center Metrorail Station, the facility is required to provide a parking supply ratio of one space for every three employees.

Transportation Element does not address parking requirements for non-staff members such as patients and visitors. Therefore, DOD criteria was applied to determine their parking needs, as presented in Appendix B. A summary of the results is shown in Table 14. This table also indicates the parking supply that would satisfy the NCPC criterion of one space for every three employees, and the parking supply that would comply with the County standards. The data shows that the projected 2011 parking needs would be quite conservative compared with NCPC and the County requirements.

Table 14 Summary of Population and Parking Projections – NNMC Master Plan

	Projected Staff Numbers		Associated Future Parking Numbers				
	Total Staff	Adjusted Staff [4] (less staff lodgers-dental-shift workers+shift overlap-volunteers)	Staff	Patient	Visitor	Other	**Total**
NCPC[1] and UFC[2] Parking Allowance	10,613	9,679	3,279	2,777	2,045	803	**8,903**
NNMC Future Proposed Parking	10,613	9,679	2,462	2,777	2,045	803	**8,087**
Montgomery County Parking Allowance[3]			3,022	5,287	2,524	836	**11,669**

1. Staff parking allowance based on NCPC ratio of 1 space for every 3 employees.

2. All non-staff parking allowance based on UFC Criterion.

3. Note the Montgomery County value for patients shown includes staff and patients. The staff numbers shown are for facilities other than the hospital.

4. The Adjusted Staff column includes all campus Students and Resident Doctors.